

REMARKS

Applicants request favorable reconsideration and allowance of the subject application in view of the preceding amendments and the following remarks.

Claims 21-29 and 34 are presented for consideration. Claims 21, 27 and 34 are independent. Claims 30-33 have been canceled without prejudice or disclaimer. Claims 21-23 and 25-27 have been amended to clarify features of the subject invention, while claim 34 has been added to recite additional features of the subject invention. Support for these changes and this claim can be found in the original application, as filed. Therefore, no new matter has been added.

Applicants requests favorable reconsideration and withdrawal of the objection and rejection set forth in the above-noted Office Action.

Claims 23 was objected to due to a minor informality. Applicants have amended claim 23 to correct this informality. Specifically, claim 23 has been amended to recite that the Y interferometer is used in conjunction with a Y reflection surface. Applicants submit, therefore, that this objection has been overcome. Such favorable indication is requested.

Claims 21-33 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 5,151, 749 to Tanimoto et al. Applicants submit that the cited art does not teach or suggest many features of the present invention as recited in independent claims 21 and 27. Therefore, these rejections are respectfully traversed.

In one aspect of the present invention, independent claim 21 recites a scan type exposure apparatus for transferring a pattern onto a substrate by scan exposure. The apparatus includes a

stage for moving the substrate in a Y direction corresponding to a scan direction, and in an X direction intersecting the scan direction, an alignment scope for performing measurement for alignment of the substrate, at a position spaced, in the Y direction, from a position where the exposure of the substrate is to be carried out, the alignment scope being disposed on a straight line parallel to a Y-axis and passing through the position for exposure of the substrate, an X measuring device for performing yaw measurement of the stage by use of an X reflection surface provided on the stage along the Y direction, a Y measuring device for performing yaw measurement of the stage by use of a Y reflection surface provided on the stage along the X direction, and a controller which selects yaw measurement information of the X measuring device for an alignment operation including the alignment measurement using the alignment scope, and which selects yaw measurement information of the Y measuring device for the scan exposure.

In another aspect of the present invention, independent claim 27 recites a scan type exposure apparatus for transferring a pattern onto a substrate by scan exposure. The apparatus includes a stage for moving the substrate in a Y direction corresponding to a scan direction, and in an X direction intersecting the scan direction, an alignment scope for performing measurement for alignment of the substrate, at a position spaced, in the X direction, from a position where the exposure of the substrate is to be carried out, the alignment scope being disposed on a straight line parallel to an X-axis and passing through the position for exposure of the substrate, a Y measuring device for performing yaw measurement of the stage by use of a Y reflection surface provided on the stage along the X direction, said Y measuring device including (i) a Y-direction

interferometer for measuring a position of the stage in the Y direction, and (ii) a Y yaw interferometer being cooperable with the Y-direction interferometer to measure yawing of the stage, and a controller which selects yaw measurement information of the Y measuring device, both for an alignment measurement using the alignment scope and for the scan exposure operation.

Accordingly, in the present invention recited in independent claims 21 and 27, the controller selects the yaw measurement information between the alignment operation and the scan exposure operation. Namely, in accordance with the present invention, the interferometers for yaw measurement can be interchanged between the alignment operation and the scan exposure operation.

Applicants submit that the cited art does not teach or suggest such features of the present invention, as recited in independent claim 21 and 27.

The Examiner takes the position that, in the Tanimoto et al. patent, the X interferometer and the Y interferometer are selectable. Applicants submit, however, that this document teaches nothing regarding choosing or interchanging the interferometer of yaw measurement between an alignment operation and a scan operation, in the manner of the present invention recited in independent claims 21 and 27. Applicants submit, therefore, that the Tanimoto et al. patent does not teach or suggest the salient features of Applicants' present invention, as recited in these independent claims.

For the foregoing reasons, Applicant submits that the present invention, as recited in independent claims 21 and 27, is patentably defined over the cited art.

Dependent claims 22-26, 28 and 29 also should be deemed allowable, in their own right, for defining other patentable features of the present invention in addition to those recited in their respective independent claims. Further individual consideration of these dependent claims is requested.

For reasons similar to those discussed above with respect to independent claims 21 and 27, Applicants further submit that independent claim 34 patentably defines features of the device manufacturing method of the present invention. Specifically, independent claim 34 recites a step of transferring a pattern onto a substrate by use of a scan-type exposure apparatus, which includes those features discussed above with respect to independent claim 21. Accordingly, Applicants submit that the present invention, as recited in independent claim 34, likewise should be deemed allowable over the cited art.

Applicants further submit that the instant application is in condition for allowance. Favorable reconsideration, withdrawal of the objection and rejection set forth in the above-noted Office Action and an early Notice of Allowance are requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Steven E. Warner", is written over a horizontal line.

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